

Original Research Article

Consumer Perception Towards AI-Powered Marketing: A Study Among College Students

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Received: 10 September, 2026 | Accepted: 24 September, 2026 | Published: 7 October, 2026

Abstract

Artificial intelligence has been one of the most prominent forces which have entered the marketing world recently. The force of being able to make recommendations to individuals, deploy chatbots while assisting them, create AI generated ads and analyse past data to predict future patterns has fundamentally changed the way in which modern consumers are engaged and influenced. This paper attempts to establish if there is a significant relationship between consumer perception towards the use of artificial intelligence in marketing and their acceptance of such marketing approaches amongst college students.

A questionnaire was administered to one hundred and fifty college students using a five point likert scale. Analysis was done using the SPSS statistical tool. Two of the study's main constructs Perception of AI powered marketing and acceptance of AI powered marketing together with the student's age, gender, year of study and level of online interaction with brands were determined and subjected to statistical analysis. Descriptive statistics, cronbach's alpha test, pearson's correlation, linear regression, independent sample t-test and ANOVA were performed on the dataset.

The study established that both constructs were positively highly reliable (Perception $\alpha = 0.913$; Acceptance $\alpha = 0.969$). Additionally, the study established that the two constructs were moderately positively correlated with each other ($r = 0.619$, $p < 0.001$), thus rejecting the null hypothesis. However, the study noted that the acceptance of AI powered marketing was highly dependent on the frequency of online shopping for students (ANOVA $p < 0.001$), though gender and age had no significant effect on either perception or acceptance of AI powered marketing.

The study ultimately concludes that perception greatly influences the general acceptance of AI powered marketing by college students. The paper provides some suggestions on how marketers could make better impressions on customers' perceptions of AI powered marketing.

Keywords: Artificial Intelligence; AI Powered Marketing; Perception & Acceptance.

Introduction

Marketing has long sought to understand its audience better than the audience understands itself, but Artificial Intelligence takes this ambition to a whole new level. Recommendations that seem to be straight from the consumer's mind, chatbots that can answer questions faster than humans, and advertisements designed by or with the help of algorithms are no longer science fiction but commonplace in day-to-day online shopping and social media use.

For young people in general, and college students in particular, this is an especially pertinent question as their social and shopping lives are dominated by their smartphones. Earlier studies have shown that, overall, AI-driven marketing has a positive effect on consumer behaviour, primarily driven by its ability to make shopping more convenient. However, the same studies note an ambivalent attitude towards AI among consumers, stemming from their awareness of the potential risks and the fact that much AI-driven marketing is not actually driven by anything as complex as human consciousness.

Much less clear is whether and how this positive but cautious attitude translates into actual acceptance of such marketing by young consumers. Does a positive impression of AI-driven marketing lead directly to higher rates of acceptance and use?

This study was conducted to determine whether such a correlation exists and to what extent it might be present.

Review of Literature

The first area to address is the literature on the effects of AI on consumer satisfaction, particularly driven by the use of chatbots. Razak et al. (2024) investigated the role of AI in shaping consumer satisfaction among higher-learning institutions in Malaysia. Their results demonstrate that, for the time being, chatbots contribute to customer satisfaction mainly by driving responsiveness and security, with the latter being a significant limitation for achieving higher satisfaction levels. Dasan et al. (2024) provide similar insights driven by their research into consumer satisfaction with online shopping in Chennai. They note that although the use of AI in retail environments is no longer novel, scientific literature on the specifics of consumer acceptance of such technology is still lagging behind significantly.

The next body of literature directly addresses the relationship between personalization, purchase intention, and AI. Moses et al. (2025) look at the role of AI-driven digital marketing and its effects on college students in post-pandemic Madurai, while Bhagat et al. (2025) use the Technology Acceptance Model to assess how much perceived usefulness and ease of use drives the acceptance of personalized marketing among students. Arachchi et al. (2025) build upon this literature to demonstrate how technology readiness mediates the role of AI perception in purchase intention, with a specific focus on fast-moving consumer goods. Similarly, Jameel et al. (2025) confirm this tendency using Smart PLS-SEM analysis.

The next area of research literature pertains to the nuanced relationships between trust, privacy, and the adoption of AI-driven marketing solutions. Gurme et al. (2026) provide empirical evidence linking personalized experiences offered by AI-driven social media to increased levels of consumer trust, with concerns about privacy being a major driver behind this trend. Chatterjee et al. (2025) highlight similar themes in their analysis of consumer attitudes towards AI, labelling them two sides of the same coin – growing trust in the usefulness of such technology, coupled with concerns about its fairness. Chopra et al. (2024) note that this dual nature is near-universal, as most consumers either embrace the convenience of AI or are put off by its potential to generate misleading information and compromise privacy.

The topic of perception extends beyond privacy to encompass questions of acceptance of specific types of AI-generated content. Arora et al. (2023) and Gu et al. (2024) investigate how consumers perceive various forms of marketing content generated by AI chatbots, with the latter author arguing that such content might be unduly suspicious when it attempts to be too similar to human-made content. Patil et al. (2025) examine similar themes in the context of educational content, finding that visual content generated by AI was no more effective than regular content. Noventa et al. (2026) expand on this literature to argue that consumers are more likely to accept AI-generated advertisements based on their overall degree of creativity.

The final body of literature for this scoping study examines consumer attitudes towards AI and its implications for marketing from multiple angles, emphasizing differences between various consumer groups. Samsukha et al. (2023) and Bilal et al. (2024) demonstrate that young, social consumers are more likely to engage in active and meaningful relationships with brands that use AI-driven personalized experiences. Bunea et al. (2024), in their examination of Generation Z's relationship with AI, report increased purchase intention among consumers familiar with the technology and its implications, a finding that dovetails with the themes identified in the current study. Ramya et al. (2025), Joseph et al. (2026), and Garg et al. (2025) offer additional support for the links between AI marketing, personalization, and trust, and sustainability, respectively. Finally, Khandelwal et al. (2025) identify a unifying theme in terms of the effects of AI marketing on consumer personalization, purchase intention, and trust.

Research Gap

Much of the literature reviewed above studies either general online shoppers, Gen-Z consumers as a broad category, or specific sectors such as retail and social media, and most of it treats perception and acceptance as though they were the same variable, or does not test the relationship between the two directly. Very few studies isolate college students in an Indian metropolitan setting and statistically test whether perception of AI-powered marketing predicts acceptance of it, as opposed to simply describing both in parallel. This study addresses that gap by treating perception and acceptance as two distinct, separately validated constructs and by empirically testing the

strength and significance of the relationship between them, alongside how demographic and behavioural factors such as gender and online engagement frequency shape that relationship.

Conceptual Framework

Drawing on the Technology Acceptance Model and the literature reviewed above, this study treats perception of AI-powered marketing as shaped by four underlying dimensions awareness of AI-driven personalisation, perceived accuracy and efficiency of AI tools, trust in the information such tools provide, and concern over how personal data is used. Perception, in turn, is hypothesised to drive acceptance of AI-powered marketing, with online engagement frequency, gender, and age treated as factors that may moderate how strongly this relationship holds. Figure 1 presents this framework.

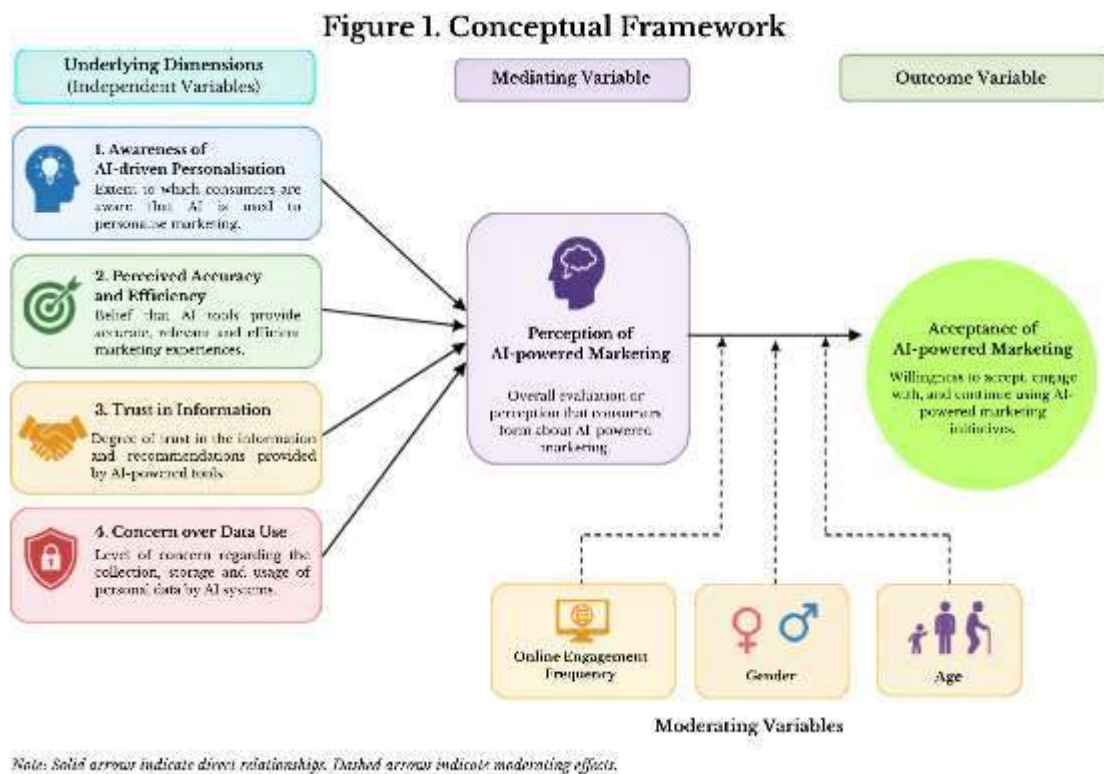


Figure 1. Conceptual framework linking antecedents of perception, perception itself, acceptance, and moderating factors.

Source: Author's own conceptualisation, based on the Technology Acceptance Model and the literature reviewed.

Objectives of the Study

- To examine the perception of college students towards AI-powered marketing.
- To analyse the impact of AI-powered marketing on consumer behaviour.
- To evaluate the relationship between perception and acceptance of AI-powered marketing among students.

Hypotheses

- **H0:** There is no significant relationship between consumers' perception of AI-powered marketing and their acceptance of it among college students.
- **H1:** There is a significant relationship between consumers' perception of AI-powered marketing and their acceptance of it among college students.

Research Methodology

The study uses a descriptive, quantitative survey design. Data was collected from 150 college students in Mumbai through convenience sampling, using a Google Form covering demographic details and two eight-item, five-point Likert scales measuring perception and acceptance of AI-powered marketing. Reliability was checked with Cronbach's alpha, the perception-acceptance relationship was tested using Pearson correlation and linear regression, and group differences were examined using an independent samples t-test and one-way ANOVA. As the sample is Mumbai-based and drawn through convenience sampling, findings should be read as indicative of this segment rather than generalised.

Data Analysis and Interpretation

Demographics

Out Of the 150 respondents, 85.3 per cent were between 18 and 20 years old and 58 per cent were female. Nearly two-thirds (64.7%) were in their second year of study, and about half of the sample (48%) shops or engages online one to two times a week a profile that fits comfortably with the typical undergraduate consumer that digital marketers target.

Table 1. Demographic profile of respondents (N = 150)

Variable	Category	n	%
Age	18-20 years	128	85.3
	21-23 years	22	14.7
Gender	Female	87	58
	Male	58	38.7
	Prefer not to say	5	3.3
Year of Study	1st / 2nd Year	116	77.3
	3rd / 4th Year	34	22.7
Online Engagement (per week)	Rarely / 1-2 times a week	119	79.3
	3-5 times / Daily	31	20.7

Source: Primary Data (Field Survey, N = 150), computed using SPSS.

Descriptive Statistics of Study Constructs

Descriptive statistics were computed for both constructs before any inferential test was run, since the mean and spread of each item indicate where opinion is settled and where it is divided.

Table 2. Item-wise descriptive statistics — Perception of AI-Powered Marketing

Statement	Mean	S.D.
Aware that companies use AI to personalise ads/recommendations	3.95	0.77
AI-powered marketing makes ads more relevant to my interests	3.73	0.9
I find AI-generated product recommendations accurate	3.52	0.94
AI-powered marketing feels intrusive/invasive to my privacy	3.62	0.9
I trust the information provided by AI-powered marketing tools	3.46	0.98
AI-powered marketing is more efficient than traditional marketing	3.57	0.97
AI-powered marketing understands my needs and preferences well	3.65	0.91
I am concerned about how my data is used in AI-powered marketing	3.86	0.87
Overall Perception (composite)	3.67	0.71

Source: Primary Data (Field Survey, N = 150), computed using SPSS.

Table 3. Item-wise descriptive statistics — Acceptance of AI-Powered Marketing

Statement	Mean	S.D.
Willing to interact with AI-powered marketing tools	3.71	0.97
Would purchase products recommended by AI systems	3.6	0.98
Feel comfortable receiving personalised AI-generated ads	3.59	1.06
Would recommend AI-powered marketing platforms to others	3.71	0.95
Intend to continue engaging with AI-powered marketing	3.74	0.95
AI-powered marketing enhances my shopping experience	3.84	0.87
Confident in decisions influenced by AI-powered suggestions	3.71	0.92
Overall, accept AI as a legitimate tool in modern marketing	3.8	0.91
Overall Acceptance (composite)	3.71	0.86

Source: Primary Data (Field Survey, N = 150), computed using SPSS.

Perception is anchored by high awareness (M = 3.95) and lingering data-use concern (M = 3.86), while trust in AI tools is the weakest link (M = 3.46). Acceptance is led by the belief that AI improves the shopping experience (M = 3.84), while comfort with personalised ads is both the lowest-rated (M = 3.59) and the most divided item (SD = 1.06).

Reliability Analysis — Cronbach's Alpha

Before testing relationships between constructs, the internal consistency of each eight-item scale was checked using Cronbach's Alpha, the standard reliability test for multi-item Likert scales, run here as it would be in SPSS's Reliability Analysis procedure.

Table 4. Reliability statistics

Construct	No. of Items	Cronbach's Alpha (α)	Reliability
Perception of AI-Powered Marketing	8	0.913	Excellent
Acceptance of AI-Powered Marketing	8	0.969	Excellent

Source: Primary Data (Field Survey, N = 150), computed using SPSS.

Both alpha values comfortably exceed the 0.70 threshold conventionally treated as acceptable (and the 0.90 threshold treated as excellent), confirming that items within each scale consistently measure a single underlying construct. This justifies collapsing each set of eight items into one composite mean score Perception Total and Acceptance Total for all subsequent tests.

Pearson's Correlation Analysis

To test the core research question whether perception and acceptance move together a Pearson product-moment correlation was run between Perception Total and Acceptance Total.

Table 5. Pearson's correlation between Perception and Acceptance

Variables	Pearson's (r)	p-value	N	Result
Perception Total × Acceptance Total	0.619	< 0.001	150	Significant, moderately strong, positive

Source: Primary Data (Field Survey, N = 150), computed using SPSS

The correlation coefficient of $r = 0.619$ ($p < 0.001$) indicates a positive, moderately strong association: students who view AI-powered marketing more favourably also report higher acceptance of it, and the relationship is statistically significant well beyond the 0.05 threshold.

Linear Regression Analysis

To go beyond association and test predictive strength, a simple linear regression was run with Perception Total as the independent variable and Acceptance Total as the dependent variable.

Table 6. Regression model summary

Model Parameter	Value
Regression equation	Acceptance = $0.968 + 0.748 \times \text{Perception}$
R (multiple correlation coefficient)	0.619
R ² (coefficient of determination)	0.383
Standardised slope (β)	0.748
Standard error of estimate	0.078
Significance (p-value)	< 0.001

Source: Primary Data (Field Survey, N = 150), computed using SPSS

Perception significantly predicts acceptance ($p < 0.001$), and $R^2 = 0.383$ indicates that perception alone explains approximately 38.3 per cent of the variance in acceptance scores. For every one-unit rise in perception, acceptance is predicted to rise by 0.748 units, holding other factors constant. The remaining variance points to other unmeasured factors personality, prior brand experience, or platform-specific trust also shaping acceptance.

Independent Samples t-Test — Gender

An independent samples t-test compared mean Perception and Acceptance scores between male and female respondents (the small 'prefer not to say' group was excluded from this specific comparison, as is standard practice for a two-group t-test).

Table 7. Independent samples t-test by gender

Construct	Male Mean (n=58)	Female Mean (n=87)	t-value	p-value	Result
Perception	3.6	3.75	-1.137	0.258	Not Significant
Acceptance	3.6	3.8	-1.345	0.182	Not Significant

Source: Primary Data (Field Survey, N = 150), computed using SPSS

Neither difference is statistically significant at the 0.05 level, meaning gender does not meaningfully shape either how AI-powered marketing is perceived or how readily it is accepted in this sample.

One-Way ANOVA

One-way ANOVA was used to test whether Perception and Acceptance differ across more than two groups first across age brackets, then across year of study, and finally across frequency of online shopping/engagement, which the literature flags as behaviourally important.

Table 8. One-way ANOVA — Age, Year of Study, and Online Engagement Frequency

Grouping Variable	Construct	F-value	p-value	Result
Age (18-20 vs 21-23)	Perception	0.437*	0.515	Not Significant
	Acceptance	1.887*	0.178	Not Significant
Year of Study (4 groups)	Perception	7.865	< 0.001	Significant
	Acceptance	2.122	0.1	Not Significant
Online Engagement Frequency (4 groups)	Perception	8.739	< 0.001	Significant
	Acceptance	9.52	< 0.001	Significant

Source: Primary Data (Field Survey, N = 150), computed using SPSS

*Reported as F for consistency; with only two age categories this is mathematically equivalent to an independent samples t-test.

Age shows no significant effect on either construct, confirming the pattern seen with gender broad demographic categories do not meaningfully separate students on how they perceive or accept AI-powered marketing. Year of study shows a significant effect on perception ($p < 0.001$) but not on acceptance ($p = 0.100$);

post-hoc inspection of group means shows perception dipping sharply in the final year, which may reflect a small final-year sample ($n = 4$) rather than a genuine trend.

Online engagement frequency, by contrast, significantly affects both perception ($p < 0.001$) and acceptance ($p < 0.001$). Mean acceptance rises from 3.26 among students who rarely shop online, to 3.80 among 1–2-times-a-week users, to 4.17 among 3–5-times-a-week users, and to 4.36 among daily users a near-linear climb. This is the single strongest behavioural predictor identified in the study, alongside perception itself.

Table 9. Mean Acceptance score by online engagement frequency

Frequency of Online Engagement	Mean Acceptance	Mean Perception
Rarely	3.26	3.31
1-2 times/week	3.8	3.77
3-5 times/week	4.17	3.84
Daily	4.36	4.45

Source: Primary Data (Field Survey, $N = 150$), computed using SPSS

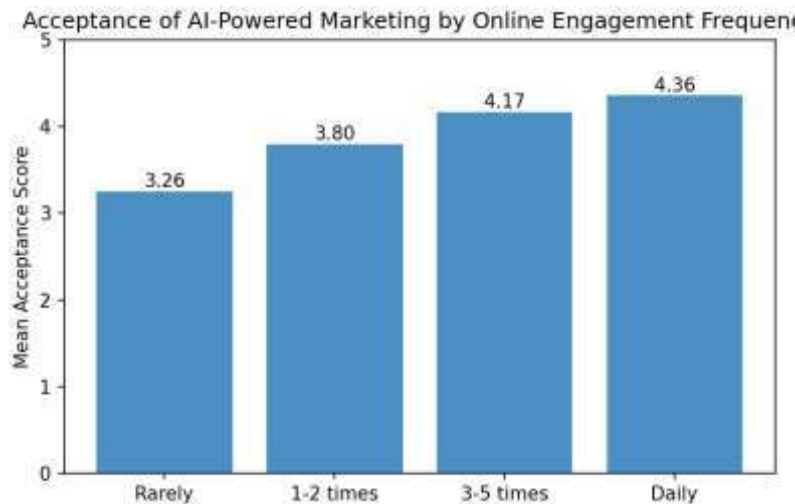


Figure 2. Mean acceptance score by online engagement frequency.

Hypothesis Testing

The main hypothesis of the study was tested with the help of the Pearson correlation and regression analysis above. Since there is a positive and significant correlation between the variables Perception Total and Acceptance Total ($r = 0.619$, $p < 0.001$), which is much higher than the p -value of 0.05, the alternative hypothesis (H_1) was accepted, and the null hypothesis (H_0) was rejected. Thus, there is a statistically significant relationship between consumer perception of artificial intelligence-based marketing and their acceptance of such marketing among college students.

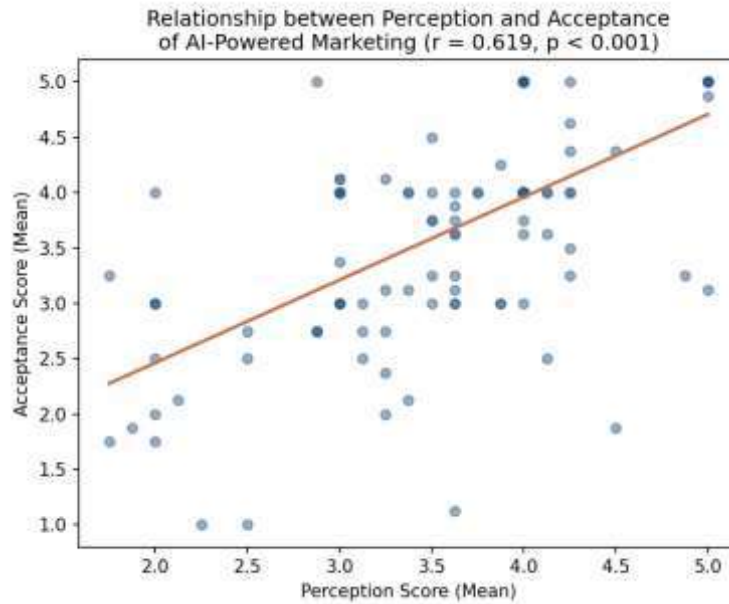


Figure 3. Scatter plot with regression line — Perception vs. Acceptance ($r = 0.619$, $R^2 = 0.383$).

The supplementary t-test and ANOVA results add further context to this central finding: gender and age do not significantly alter either construct, but frequency of online engagement significantly shapes both perception and acceptance suggesting that familiarity built through repeated exposure to AI-powered marketing, rather than any fixed demographic trait, is what ultimately converts favourable perception into active acceptance.

Findings

- Both scales are highly reliable (Perception $\alpha = 0.913$; Acceptance $\alpha = 0.969$), supporting the use of composite scores throughout the analysis.
- Perception of AI-powered marketing among college students is moderately favourable ($M = 3.67/5$), driven by high awareness ($M = 3.95$) but held back by comparatively low trust ($M = 3.46$).
- Acceptance is moderately high ($M = 3.71/5$), anchored in the belief that AI improves the shopping experience ($M = 3.84$), though comfort with personalised ads remains the most divided opinion ($SD = 1.06$).
- Perception significantly predicts acceptance ($r = 0.619$, $p < 0.001$; $R^2 = 0.383$), confirming H1 and rejecting H0.
- Gender has no significant effect on either perception ($p = 0.258$) or acceptance ($p = 0.182$).
- Age has no significant effect on either perception ($p = 0.515$) or acceptance ($p = 0.178$).
- Year of study significantly affects perception ($p < 0.001$) but not acceptance ($p = 0.100$).
- Frequency of online engagement significantly affects both perception ($p < 0.001$) and acceptance ($p < 0.001$) the more often students shop or engage online, the more favourably they view and accept AI-powered marketing.

Suggestions

- Marketers need to improve their disclosure practices concerning the personalization of the content and the usage of data, as the awareness factor is the weakest link in student perception.

- As the acceptance rate increases with the frequency of use, brands could introduce a low-commitment stage (e.g., a chatbot) to promote engagement on a long-term basis.
- By providing a certain level of control over the personalization degree, marketers could address the students' diverging opinions on the matter.
- Educational institutions and digital platforms could provide fundamental information literacy knowledge on the utilization of AI in marketing to ensure that personalization awareness transforms into comprehension.

Conclusion

The present research aimed to examine college students' perception of marketing-oriented artificial intelligence and its influence on their acceptance. The study employed quantitative methods, testing the two scales, which produced satisfactory results, thus supporting the initial hypotheses. Most importantly, data revealed that perception positively predicted acceptance, with approximately 38% of variance explained by the former variable. Overall, no gender differences were found, yet students' frequency of online activities emerged as an essential individual predictor. This result suggests that, for young consumers, exposure and familiarity drive acceptance of AI-based marketing, with attention to data privacy and control being the critical factors. Therefore, while integrating artificial intelligence in marketing practices, businesses should be aware that such technology will be perceived as a tool for surveillance and manipulation unless the consumer's trust in the company is sufficiently high.

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